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EXAMINER

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ART UNIT

PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/464,034	Applicant(s) Hyatt
	Examiner Joseph Mancuso	Group Art Unit 2723

Responsive to communication(s) filed on 29 Mar 1999

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 98-102, 105-173, 187-281, 284, 285, 301, and 380-510 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 98-102, 105-173, 187-281, 284, 285, 301, and 380-510 is/are rejected.

Claim(s) _____ is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 28, 29, 30

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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1. This action is responsive to amendment A, paper # 4, filed September 13, 1995; amendment B, paper # 9, filed April 25, 1996; amendment C, paper # 18, filed March 24, 1997; amendment D, paper # 20 ½, filed April 25, 1997; amendment E, paper # 25, filed December 4, 1997; amendment F, paper # 26, filed February 9, 1998; amendment G, paper # 32, filed March 29, 1999; amendment H, paper # 33, filed June 10, 1999 as well as IDS's filed June 5, 1995, paper #2; March 24, 1997, paper # 28; March 23, 1998, paper # 29; and February 16, 1999, paper # 30.

In order to clarify the status of the claims, it is noted that on June 1, 1995, applicant filed this application with claims 1-20 (said claims being identical to the claims filed in 99 other application filed on or near the same date of filing). On September 13, 1995, applicant filed preliminary amendment A that canceled claims 1-20 and added claims 21-97. These new claims (21-97) were substantially identical to those of approximately 50 (of the original 100) other applications that were similarly amended. In amendment C (paper # 18, filed March 24, 1997), applicant canceled claims 21-94 and added claims 98-291. In amendment D, filed April 25, 1997 applicant amended claims 95-97, and added new claims 339-341 (the claims were misnumbered and were renumbered 292-294 according to rule 126). On December 4, 1997, applicant filed supplemental amendments E that added claims 342-427 (the

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claims were misnumbered and were renumbered 295-379 according to rule 126).

On June 10, 1999, applicant filed supplemental amendment H that cancels claims 95-97, 103, 104, 174-186, 282, 283, 286-300, and 302-379, substantively changed claims 98-102, 105-173, 187-281, 284 and 285 and adds new claims 380-510. Therefore, the following claims are currently pending: 98-102, 105-173, 187-281, 284, 285, 301, and 380-510.

Claim Rejections - 35 U.S.C. § 112, 1st Paragraph

2. Claims 98-102, 105-173, 187-281, 284, 285, 301, and 380-510, are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The statements advanced in paragraphs 4-8, of the previous Office Action, regarding the applicability of the rejection are incorporated herein. In the action, the legal basis for the rejections as well as several examples of non-enabled subject matter were presented. The examples included non-enablement for the claimed interconnections (the "generating" and "coupled" language) and interrelations (the "in response to"

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language), a "subpixel vector change circuit", "spatial interpolation circuit", "weight circuit", and claims directed to making various products. Most of these rejections remain applicable in light of the changes made by amendment H (paper number 33, filed on June 10, 1999) and will not be repeated. Some of the wording has been changed, but not the essence of the claims.

Regarding the new claims added and amended by amendment H, directed to several new limitations, many of which are directed to "temporal interpolation circuit", "spatial interpolation processor" (see at least claims 105-107, and others for example); "scale factor input circuit" or variations thereof (at least independent claims 117, 131,139 and others); which will be addressed as a further example of non-enabled subject matter below.

(1) Several claims such as at least claims 105-106 and others, recite:

a first memory storing prior pixel image information, the prior pixel image information representing a prior image;

a second memory storing next pixel image information, the next pixel image information representing a next image;

a temporal interpolation circuit coupled to the first memory and coupled to the second memory, the spatial interpolation circuit generating temporally interpolated information in response to the

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prior pixel image information stored by the first memory and in response to the next pixel image information stored by the second memory;

a subpixel vector change circuit generating subpixel vector change information having subpixel resolution in response to the prior pixel image information stored in the first memory and in response to the next pixel image information stored in the second memory;

a transform processor generating transformed image information in response to temporally interpolated interpolation information. Nearly all of the claims in the application contain the same uses of the terms "coupled to" and "in response to" as exemplified above. The specification does not contain support for the claimed interconnections (the "coupled to" language) of elements. Nor does the specification contain support for the claimed interrelations (the "in response to" language) between the elements. The specification must contain enabling support for each and every claimed interconnection (i.e., all of the elements that are recited as being "coupled to" other elements). Additionally, the specification must contain enabling support for each and every claimed interrelation (i.e., all of the elements that are recited as operating "in response to" other elements). The specification does not provide for either of these critical elements. The

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originally filed specification does not disclose the coupling of the claimed elements to one another, nor does it disclose how these elements are "coupled to" one another. Even if the specification did recite that the claimed elements were connected to one another (which it does not), it would still not be enabling as it must still disclose how the elements are connected to one another. What elements are used to couple the various elements also needs to be disclosed. If the elements used to perform the coupling are not disclosed, and there is no enabling disclosure as to how the claimed elements are "coupled to" one another, the claimed recitations can not be considered to be enabled. Therefore, one of ordinary skill in the art would require undue experimentation and burden to make or use the claimed invention. Further, there are no drawings that show how the claimed elements are connected to one another or how they interact with one another. Also, there are no drawings that show the coupling elements or what the coupling elements are. Also, there are no drawings that show the claimed functions of the variously claimed elements operating "in response to" one another. Every claimed limitation is to be shown in the drawings, or the limitation(s) must be canceled from the claim(s).

(2) Several claims, such as at least 98-102, 106, as well as many others, the claimed limitations of "an image communication

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link", "a vector communication link", "a communication link coupled to the ... communicating output image information in response to the ..." (a communication link is claimed coupled to a variety of different nonenabled circuits and couplings, and communicates image information in response to a variety of different nonenabled circuits and couplings) are not enabled by the originally filed specification. The only recitation in the specification of "communications link" (or similar language) is "Input sources can be image sensors, image generators, memories, other image processing systems, digitizers, communication links, and multitudes of other input sources. Output destinations can be display monitors, pattern recognition devices, artificial intelligence devices, memories, other image processing systems, communication links, and multitudes of other output destinations." (page 64, lines 2-5, emphasis added). Therefore, it is clear that the originally filed specification does not contain support for the claimed recitations noted above, as the specification never recites "an image communication link", "a vector communication link", or supports the communication link couplings to a variety of circuits or for communicating in response to a variety of different circuits, nor how this will function, nor how this would be structured and constructed. Therefore, one of ordinary skill in the art would require undue experimentation and burden to make or

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use the claimed invention.

(3) As to claims 111, 114, 116, 130, 397-510 as many others, these claims all recite making one product or another. Specifically, these claims recite "making" the following products: "a product"; "an information product"; "an entertainment product"; "a physical product"; "a designed product"; "a manufactured product"; "a processed product"; "a training product"; "an oil product"; "a mineral product"; "an electronic product"; "an architectural product"; "a display product"; "a communication product"; "a game product"; "a natural resource product"; "a service product"; "a location product"; "a vehicle product"; "a building product"; "a repair product"; "a television network product"; "an airline product"; "a real estate development product"; "a simulation product"; "an industrial product"; "a first product"; "a second product in response to the first product"; and "a third product in response to the second product". There is no disclosure of making a product in the specification as originally filed. A review of the specification shows that, other than the use of the term "product" in a mathematical sense (such as for multiplication or a sum-of-products), the only reference of a product is on page 454 which recites "[A]lthough the final product of a graphic art system may be static photographs, real time

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operation permits an operator to efficiently and rapidly configure images." (emphasis added). This is in a section entitled "Special Effects Application", and does not appear to be related to the other elements (including "generating input image information", "generating data compressed image information", "generating data decompressed image information", writing reconstructed image information", and "generating feedback image information") recited in the claims. Additionally, the type of "products" recited in the above claims has very little if any support in the specification. For example, the recitation of "entertainment" is only on page 486 ("An arcade game application is representative of many different types of video disk image processing applications; including interactive **entertainment** applications, simulation applications, and training applications." in the discussion of arcade games); the recitation of "oil" or "mineral" only appears on page 479 ("Companies involved in exploration, such as for **oil** and **minerals**; in weather, such as TV networks and airlines; in geography, such real estate developers; and government agencies needing information on weather, troop and equipment movements, and other situations will obtain images for analysis.") There appears to be no recitation at all of the other claimed products such as making a product "in response to information stored in the reconstructed image memory". Additionally, there appears to be no recitation at

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all of the other claimed products such as an "information product", a "physical product", a "designed product", a "manufactured product", an "electronic product" or an "architectural product". Further, the specification does not provide any support as to how these "products" are made nor as to how they are made "in response to information stored in the reconstructed image memory" as recited in the claims. Further, there is no disclosure as to exactly what these claimed "products" are intended to be. Therefore, one of ordinary skill in the art would require undue experimentation and burden to make or use the claimed invention.

(4) Most of the claims, such as at least claims 109-110, 123-124, 384 as well as many others, are directed to "temporal interpolation". However, the term "temporal interpolation" does not appear in the specification. The term "temporal" itself appears on only three pages in the entire 576 page specification, with only page 248 reciting anything directed to "temporal interpolation", (as opposed to "temporal resolution" or "temporal filtering"), and then in only one sentence, which states: "This may be considered to be a temporal domain interpolation, in contrast to spatial domain interpolation; where temporal domain interpolation interpolates the initial conditions between temporally sequential fields rather than spatially within a field." (emphasis added).

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That is, the entire support for the claimed "temporal interpolation" is that sentence cited above. However, this recitation does not disclose or support the claim limitation. Specifically, it does not support the claimed interrelations and interconnections, such as "to the first memory storing a prior 64-pixel block of image information", or for "the second memory storing a next 64-pixel block of image information", or for "generating temporally interpolated image information by temporally interpolating in between the prior 64-pixel block of image information and the next 64-pixel block of image information". Further, the specification does not disclose how the "temporal interpolation circuit" is constructed or how it functions. For example, what kind of interpolation is being done, cubic interpolation, spline interpolation, linear interpolation in general, nonlinear interpolation in general, or bilinear interpolation, zero order interpolation, and if so, where are the formulas that are typically disclosed to enable one of ordinary skill to make and use such interpolation systems or algorithms, and if none of the above types of interpolation methods, then what kind of interpolation method is used? Therefore, one of ordinary skill in the art would require undue experimentation and burden to make or use the claimed invention.

3. The drawings are again objected to under 37 CFR 1.83(a). The

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drawings must show every feature of the invention specified in the claims.

The statements advanced in paragraph 9, of the previous Office Action, as to the applicability of the objection are incorporated herein.

4. The specification is again objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

The statements advanced in paragraph 8, of the previous Office Action, as to the applicability of the objection are incorporated herein.

5. Claims 98-102, 105-173, 187-281, 284, 285, 301, and 380-510, are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make/or use the invention.

The statements advanced in paragraph 4, of the previous Office Action, as to the applicability of the rejection are incorporated herein.

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6. Claims 98-102, 105-173, 187-281, 284, 285, 301, and 380-510, are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The statements advanced in paragraph 11, of the previous Office Action, as to the applicability of the rejection are incorporated herein.

7. Claims 98-102, 105-173, 187-281, 284, 285, 301, and 380-510, are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The statements advanced in paragraph 16, of the previous Office Action, as to the applicability of the rejection are incorporated herein.

8. The drawings are again objected to because while the specification makes reference to Figures 8A, 9B, and 11B none of these Figures actually appear in the drawings. Further, these numberings appear to be erroneous as there are no Figures 9A, 10,

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or 11A, which are at least suggested to exist by the reference to alleged Figures 8A, 9B, and 11B (nor is there any mention of a Fig. 9A, 10, or 11A). There can not be a Figure 9B without a Figure 9A. Similarly, there can not be a Figure 11B without a Figure 10 or a Figure 11A. Correction is required. Again, it is noted that these are the only mentions of these Figures. Again, applicant is reminded that in correcting these problems, no new matter may be added to the specification or drawings.

9. The statements advanced in paragraphs 18, of the previous Office Action are incorporated herein.

Claim Rejections - 35 U.S.C. § 103

10. Claims 98-102, 105-173, 187-281, 284-285, 301, 380-510 are rejected under U.S.C. 103 (a) as being unpatentable over the combination of Marsh (4179824), Golin et al (4868653) , Nickel (3905045), Widergren (4302775), and Robinson (4213150).

The statements advanced in paragraph 21 of the previous office action (paper 27) as to the applicability and the disclosure of the references are incorporated herein.

Note that Marsh teaches, as stated before in the 103 rejection of paragraph 21 of paper 27: scaling controller (figure 1, element 60C) which also refers to feedback processor in response to scaled

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image information (as required by claim 131 and similarly amended claims).

Note that storing pixels and first and second memory units refer to database memory (as required by claims 223 and 155, for example, and similarly amended claims), which was also addressed in the last Office Action.

Note that displaying an image refers to design product (as required by claim 221 and similarly amended claims), which was addressed in the last action, in 103 rejection (of paragraph 21 of paper 27). To reiterate, Marsh clearly shows using displays to display the processed images. The system is also a product.

Note that computer aided design product (as required by claim 247 and similarly amended claims) (or the act of making products (claims 386-510 and similarly amended claims)) refers to an image, which is taught by Marsh (figures 1, 3), was also addressed in the last action. In addition, Marsh teaches flight simulation product (abstract), which is applicable for any type of different products such as displaying combined images, entertainment, physical, design, processed, training, electronic, and other types of products. Further, Marsh's system directed to a flight simulator shows the conventionality of using processed images to produce various types of products as previously argued.

Note that the reduced resolution and generating subpixel

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vector (as required by claim 385 and similarly amended claims) refer to subpixel interpolation, was addressed in the last action, in 103 rejection (of paragraph 21 of paper 27).

In addition to the references used before in 103 rejection (of paragraph 21 of paper 27), note that while the feature of a "64-pixel block" (in claim 109 and similarly amended claims) is not specifically mentioned by the references, it is well-known in the art (official notice) because the 8 by 8 block is commonly used in image processing, due to the fact that 8 bits constitute a byte, which is a fundamental unit in memory structure and management. Thus, it would have been obvious for a person ordinary skill in the art to use 64-pixel block at the time the invention was made.

As to claim 105 and similarly amended claims, temporally interpolating (and multiplexer/demultiplexer) were addressed in Widergren, figure 1 (NTSC video, item 26, items 38, 28, 32).

Weight input circuit and memory, as recited in claim 107, for example, and similarly amended claims, were addressed by Widergren et al, figure 2 item 20 and item 52. Spatial interpolation was already addressed with respect to the previous version of claim 105.

As to claim 112 and similarly amended claims, at least 2 digital bits was addressed by Marsh, figure 3, items 320A, 342, 341. Multilevel memory cell (and first and second memory) was

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addressed by Marsh figure 3, items 320A, 341, 342, 330-332.

As to claim 113 and similarly amended claims, subtracting in between the prior pixel information and the next pixel (delta) was addressed by Marsh, figure 2A, delta Vs shown in the figure.

As to claim 385 and similarly amended claims, reduced resolution image information was addressed by Marsh, figure 1, item 60C.

As to all the new claims 380-510, all the features not specifically addressed here have already been covered in the previous rejection of claims as described on paragraph 21 of paper number 27.

Claim Rejections - Obviousness Double Patenting

11. Claims 98-102, 105-173, 187-281, 284-285, 301, 380-510 (all pending claims) are rejected under the judicially created doctrine of obviousness-type double Patenting as being unpatentable over claim 8 of U.S. Patent No. 4,491,930 in view of the combination of Marsh (4179824), Golin et al (4868653), Nickel (3905045), Widergren (4302775), and Robinson (4213150).

The statement advanced in paragraph 26 of the previous office action (paper 27) as to the double patenting rejection is incorporated herein.

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Refer to the art rejection of claims, under 35 U.S.C. 103 above, the statements of which are incorporated herein.

Response to Applicant's Remarks

12. Applicant's arguments filed March 29, 1999, have been fully considered but they are not persuasive.

13. Applicant's response has been thoroughly reviewed and considered and it is noted that the response does not specifically mention a single claim or specific rejection. While the response does mention different types of rejections, it does not make clear which rejections are being referenced. For example, sections 1.2.1 through 1.2.7 of applicant's response are directed to "35 USC 112-1 REJECTION" (page 3 of the response). However, there is a 112 first paragraph rejection directed to a lack of enablement (starting on page 3, paragraph 5 of the last Office Action), as well as a 112 first paragraph rejection directed to an inadequate written description (starting on page 33, paragraph 12 of the last Office Action). Applicant does not indicate which of these rejections his arguments in section 1.2+ are directed towards. Further, the section labeled as "Introduction" (section 1.2.1) simply states that "Claims are rejected under 35 USC 112-1. The Applicant respectfully traverses the 35 USC 112-1 rejection for the

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reasons discussed in Sections 1.2.2 et seq." (last three lines of page 3 of the response). However, sections 1.2.2-1.2.7 do not further specify which rejection is being traversed nor does it even state which claims are being discussed (only a nebulous reference to "claims"). Therefore, applicant's remarks (both with respect to the 112 rejections, as well as the other rejections) have been considered as best possible in view of these (and similar) issues.

14. Applicant's remarks will now be addressed in the order that they are presented by applicant and will be referenced using the section number used by applicant in his response.

15. With respect to section 1.1, applicant argues that "The rejections fail to establish a prima facie case." To support this assertion, applicant cites a **concurring opinion** from In re Oetiker. However, the whole of applicant's arguments (other than the citation) is "Similarly, the present Examiner has not met his burden with factual determinations, nor with a preponderance of the evidence, nor with proper legal conclusions. Hence, the Applicant is entitled to a patent." (page 3, lines 17-20 of the response). This is the **complete** argument presented by applicant in this section. Section 1.1 does not make any reference to any specific rejection nor any specific claims. Nor does this section indicate

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what relevance the citation has to the actual rejections that are present in this application. Apparently, applicant is attempting to argue that a rejection that is 60 pages in length (plus another approximately 130 pages of appendix) is not "of sufficient detail" to establish a prima facie case. If this is indeed applicant's position, it is not at all convincing. The various rejections (including the 112, first paragraph rejections and the art rejections) make reference to specific claims and claim limitations and are of sufficient detail to establish a prima facie case for the particular rejections and are of sufficient detail to allow for an applicant to understand and to make a proper response to.

16. Section 1.2 (which comprises sections 1.2.1-1.2.7) of the response is directed to "35 USC 112-1 REJECTION". In section 1.2.1, applicant simply states (in its entirety) that "Claims are rejected under 35 USC 112-1. The Applicant respectfully traverses the 35 USC 112-1 rejection for the reasons discussed in Sections 1.2.2 et seq." It is noted that neither section 1.2 nor 1.2.1 indicates which of the 112, first paragraph, rejections are being traversed.

17. Section 1.2.2 is entitled "The Rejection Does Not Establish A Prima Facie Case". In section 1.2.2, applicant argues that the "35 USC 112-1 rejection does not approach the specificity required to establish a prima facie case and to inform the Applicant of the

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nature of the rejections as required by 35 USC 132" (page 4, lines 2-5 of the response). Further, applicant goes on to argue the "burden of establishing a prima facie case" is "not satisfied by the instant rejection" (page 4, lines 6-8, emphasis in original) and that the "claim limitations are properly disclosed at numerous places in the extensive disclosure" (page 4, lines 9-10). However, the Examiner disagrees with these assertions. Firstly, as indicated above, the remarks of section 1.2.2 does not specify which of the 112, first paragraph rejections are being argued. However, since applicant states that the "Examiner must support disclosure rejections ... why the disclosure is not adequate and must provide ... which supports a lack of adequate disclosure" (page 4, lines 14-17, emphasis added), it is apparent that applicant is traversing the lack of an enabling disclosure rejection. Additionally, the 112 lack of enablement rejection consists of at least 33 pages (pages 3-36 of the rejection), including the basis for the rejection (including MPEP citations) as well as specific mentions of claims and claim language that is not supported. Clearly, a prima facie case is made for a lack of an enabling disclosure in the Office Action. Further, while applicant alleges that "claim limitations are properly disclosed at numerous places in the extensive disclosure", nowhere does he point out where the specifically rejected claim language has support in the

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"extensive disclosure". It is noted that the extensiveness (i.e., length) of the disclosure is not at issue, it is the content of the disclosure that is questioned. Additionally, in the paragraph bridging pages 4-5 of the response, applicant argues that the "Examiner does not establish how the objectionable terminology reads on the claims; nor what individual claim a particular listed term reads upon". However, pages 15-33 of the Office Action clearly make reference to specific claims and specific language that is recited in these claims. Therefore, the Examiner has indeed established how the objectionable terminology reads on the claims and what individual claims the particular listed term reads upon.

18. Section 1.2.3 is entitled "The Claim Terminology **Does Not** have to be Stated Verbatim" (emphasis in original). Applicant argues in this section that the "Examiner apparently requires that the claim language have verbatim basis in the specification" (page 5, lines 7-8). Applicant continues by arguing that "there is significant verbatim and literal claim terminology in the specification" (page 5, lines 10-11 as well as similar recitation on page 6, line 25). As to the first point, contrary to applicant's statement the Examiner has not "require[d] that the claim language have verbatim basis in the specification" and applicant has not quoted where in the Office Action this "requirement" appears. As to the second

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point, while applicant states that "there is significant verbatim and literal claim terminology in the specification", he does not point out any instances where the terminology referenced in the rejections have support in the originally filed specification, neither "verbatim" nor literal. Further, applicant's arguments are apparently made in a vacuum as there is no attempt to reference the arguments to the actual rejections, nor are applicant's arguments supported by any specific case-related facts or by any references to applicant's specification for support.

19. Section 1.2.4 is entitled "The Disclosure Is Presumptively Correct". In this section applicant argues that the disclosure is presumed to be accurate. In support of this argument, applicant cites and quotes various court decisions. In response, it is firstly noted that (as quoted by applicant and also cited in MPEP 2164.04) In re Marzocchi it is stated that:

"it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain why it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement. Otherwise, there would be no need for the applicant to go to the trouble and

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expense of supporting his presumptively accurate disclosure." (439 F.2d at 224, 169 USPQ at 370) (emphasis added).

In the Office Action, the Examiner has indeed met the cited burden of explaining "why it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement." Specific language from the claims and specification are pointed out in the Office Action and the rejections indicate why the specification is lacking and evidence and reasoning to supplied to support these rejections. Again , it is pointed out that applicant has only made a broad and sweeping accusation without any supporting material to show where the Office Action and rejections were allegedly lacking.

20. Section 1.2.5 is entitled "The Examiner Alleges Insufficient Disclosure While Ignoring Extensive Relevant Recitations In The Disclosure". In this section applicant argues that the rejection was based "on a position that the subject terminology has no basis in the disclosure" and that "this terminology has ample basis in the disclosure" (page 8, lines 4-7). Applicant further states that "the numerous verbatim recitations and literal recitations are certainly adequate" (page 8, lines 15-16) and that "It is necessary

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for the Examiner to consider the relevant disclosure" (page 8, lines 17-18). However, while applicant argues that there is "ample basis in the disclosure" for the claimed limitations, he does not indicate where support can be found for the claimed limitations that are referenced in the Office Action. Further, applicant's remarks are unclear as to what language that is the basis for the rejections supports the claimed limitations nor what "extensive relevant recitations in the disclosure" are "ignored" by the Examiner. If applicant is attempting to rely upon the numerous incorporations by reference to provide support for the inadequately disclosed specification, applicant is again reminded (as was done on pages 28-35, paragraphs 13-15, of the Office Action) that only allowed or issued U.S. Patents can be incorporated by reference if the material is "essential" subject material. If the incorporated material is used in an attempt to overcome the 112, first paragraph rejections, it would thus be considered to be "essential". At this point, applicant's remarks are unclear if the "extensive relevant recitations in the disclosure" referenced by applicant is intended to refer to the incorporated material or to something else.

21. Section 1.2.6 is entitled "The Disclosure Makes Extensive Use Of Commercially Available Products And Integrated Circuit Components". In this section, applicant argues (in total) that the

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"description and figures include extensive disclosure of commercially available products and components, such as commercially available integrated circuit components. The disclosure provides extensive details, including schematic diagrams down to the individual component and individual wire level of detail.

The disclosure includes the widely used series 7400 line of commercially available integrated circuits. The disclosure identifies the components that are used by serial number and by schematic symbols. The disclosure expressly **incorporates by reference** various integrated circuit design books.

The use and disclosure of commercial integrated circuits mounted and interconnected on circuit boards is clearly described in the specification even to the level of cable lists, circuit placement, and software listings" (page 8, last 6 lines through page 9, line 9, emphasis in original).

While the disclosure may well contain the items argued by applicant (though, it is noted, that applicant does not point to any specific pages of the originally filed specification nor any specific Figures to support the disclosure of these items), the

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enablement of these specific, individual elements is not what is at issue. The question of enablement is directed to the subject matter that is being claimed. A review of the currently pending claims indicates that the applicant is not claiming individual IC chips (and, even if he were, it appears that he indicates that these elements are well known, since he states that he uses the "series 7400 line of commercially available integrated circuits" (page 9, lines 1-2 of the response) and that the "disclosure expressly **incorporates by reference** various integrated circuit design books" (page 9, lines 4-5, emphasis in original), but that applicant is claiming a whole system. It is the claimed system that is lacking enablement, as clearly and extensively pointed out in the Office Action. The whole, complete system is what is not enabled by the originally filed specification (nor is it adequately described in the originally filed specification). Just because common and conventional components are used to construct a system does not make the system itself enabled. There needs to be sufficient disclosure to enable one of ordinary skill in the art to make and use the claimed system (such as how the components are interconnected and how they operate with one another and how the whole system functions).

22. Section 1.2.7 is entitled "The Rejections Fail to Establish The Level Of Skill In the Art". In this section, the applicant

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argues: that the "rejection fails to establish the level of ordinary skill in the art and fails to provide evidence or reasoning concerning skill in the art" (page 9, lines 12-14); and that "the disclosure uses well known commercially available components and products (section 1.2.6) which are routinely used by artisans to implement electronic systems" (page 9, lines 15-17). Firstly, it is noted that the applicant has not specified which of the 112 rejections that these arguments are directed towards. Secondly, as to applicant's first point, the Examiner disagrees with the assertions of the applicant. Specifically, rejections did indeed consider the level of skill of one of ordinary skill in the art and provided many pages directed to the 112 rejections which, either directly or indirectly, addressed this issue. As to the second point, as in section 1.2.6 (addressed, above), it appears that applicant is arguing that since the individual components are well known then whatever combination that is claimed is also therefore enabled. However, this logic is faulty. If this line of reasoning is followed, then, since the applicant "uses well known commercially available components and products" (page 9, lines 15-16 of the response) any combination of "well known commercially available components and products" would be obvious to one of ordinary skill in the art and devices that use well known or common elements to create a new device (for example) would not be

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patentable. Clearly, since a new device can be made up of old or well known elements (such as a system that generates unexpected results) not all combinations of well known elements are obvious and, therefore, if these combinations are not obvious more than "ordinary skill in the art" is required to make and use the invention. Applicant apparently wants to have it both ways. On one hand, he is arguing that since "well known commercially available components and products" are being used he does not need to disclose all of the specifics of the claimed system (and that the specifics would be clear to an "artisan" in the art) and, on the other hand, he later argues that the invention would not have been obvious to one of ordinary skill in the art (sections 1.5+ of the response). Clearly, these two positions are contradictory to one another and inconsistent with one another. Further, applicant argues in this section that the "disclosure includes many references to and includes many incorporations by reference of prior art products, knowledge, and documents" (page 10, lines 7-9 of the response). However, as stated in the response to section 1.2.6 (above), incorporations by reference to material other than issued U. S. Patents are only proper if the material is **not** essential subject material. Applicant is apparently attempting to rely upon this material to overcome the 112 rejections. However, applicant does not indicate which of the extremely larger number of

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incorporations he is attempting to rely upon to support this assertion. Further, even if he did indicate what material was being relied upon, by arguing that the material is needed to overcome the 112 rejection and make the disclosure enabling he is also effectively arguing that the material is essential. If this is the case, the incorporation would then be considered to be improper. See pages 30-37, paragraphs 10-12, of the Office Action for a further discussion of the incorporated material and how the material is being treated.

23. Section 1.2.8 is labeled "The Disclosure" and applicant argues therein that the "instant application is extensive with over 500 pages of specification describing over 60 sheets of drawings" (lines 1-2 of section 1.2.8). Once again, the Examiner would like to reiterate that he does not disagree with the applicant as to the lengthiness of the specification. It is the contents of the specification that is lacking. No matter the length of the specification, it may still not satisfy the requirements of 35 U.S.C. §112, first paragraph. In this application, the lengthy specification does not provide an enabling disclosure for the claimed subject matter and the specification also does not provide an adequate written description of the invention.

24. Section 1.2.9 is entitled "The Disclosure Provides Extensive Details In A Top Down Format". In this section applicant argues

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that the disclosure is "arranged in a 'top down' form" (page 12, line 5, of the response) and that the "figures and the description related thereto are arranged in this 'top down' form" (page 12, lines 5-6 of the response). Applicant then proceeds to state (page 12, line 15 to page 13, line 8, of the response) that:

A system block diagram is shown in Figs. 1A and 1P with various blocks that are shown in greater detail in other figures. For example, an input device 115A (Fig. 1P) is shown in detailed schematic form in Figs. 6O-6R, a memory 115C (Fig. 1P) is shown in detailed schematic form in Figs. 6E-6N, a buffer 115D (Fig. 1P) is shown in detailed schematic form in Figs. 6X-6AF, and an output device 115E (Fig. 1P) is shown in detailed schematic form in Figs. 6S and 6T.

Furthermore, Fig. 6A illustrates another block diagram with various blocks that are shown in greater detail in other Figures. For example, control logic 610B (Fig. 6A) is shown in detailed schematic form in Figs. 6B-6D, address generators 610C (Fig. 6a) are shown in detailed schematic form in Figs. 6O-6R, memory 610D (Fig. 6A) is shown in detailed schematic form in Figs. 6E-6R, and buffer 610E (Fig. 6A) is shown in detailed schematic form in Figs. 6X-6AF.

Intermediate level figures are provided to further disclose the invention. For example, Fig. 2M provides intermediate level detail to further illustrate the address generator block 115B (Figs. 1P and 2M) and the memory block 115C (Figs. 1 and 2). Other figures (e.g.,

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Fig. 5A, 5D, 6A, and 6E) also provide various intermediate levels of detail.

However, these arguments have very little, if anything, to do with the actual rejections that have been made in the last Office Action (and repeated herein). Specifically, the rejection includes the following specifics that are not addressed in this discussion by the applicant: (1) the various claimed interconnections and interrelations (the "coupled to" and "in response to" language of the claims) (pages 15-17 of the rejection); (2) "weighting and scaling circuits" in various combinations with other claimed elements (pages 15-17 of the rejection); (3) a "subpixel vector change circuit" (pages 15-17); (4) a "communication link is claimed coupled to a variety of different nonenabled circuits and couplings" (pages 19-20); (5) a "transform processor coupled to a spatial interpolation circuit" (pages 15-17); and (6) making one product or another (pages 17-19). While applicant argues that he presented his disclosure in a "top down" format, the specification still does not address the points raised in the previous Office Action and repeated herein. The points raised by applicant on pages 12-13 of the response (and quoted above) do not address the issues raised in the rejection. These points simply are directed to memory addressing and **not** to the issues raised in the rejections (such as a "weighting and scaling circuits" , a "subpixel vector

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change circuit" or a "transform processor", for example).

On page 13, lines 9-10 of the response, applicant argues that the "figures are described in detail in the extensive specification comprising **over 500 pages** of description" (emphasis in original). Once again, as previously stated, the Examiner is not disagreeing with applicant as to the length of the specification. It is the content of the specification that is at issue and it is the content of the specification that is lacking. Apparently, applicant is confusing size with content. Simply because a specification is lengthy **does not mean that it is enabling**. By this logic, a short specification, simply by only being a few pages in length would necessarily lack enablement while a long specification (such as many hundreds of pages in length) would necessarily be enabling. Clearly this logic is faulty. Quantity is not a measure of quality and length is not a measure of content.

On page 13, lines 16-26 of the response, applicant argues that the disclosure includes "highly detailed schematic diagrams down to the individual component and individual wire level of detail ..., detailed descriptions thereof down to the individual component and individual wire level of detail ..., cable wire lists ..., circuit component (DIP) location of circuit boards ..., and actual Basic program listings with instructions and detailed annotations". However, a review of the specification indicates that what

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applicant references in these locations are not actually directed to the claimed subject material or directed to the issues raised in the 112, first paragraph rejections. The various "schematic diagrams", "component and individual wire level of detail", "cable wire lists", and "circuit component (DIP) location of circuit boards" provided by applicant, for example, are **not** directed to the "weighting and scaling circuits" , a "subpixel vector change circuit" or a "transform processor " (and other issues raised in the rejections). For example, applicant makes extensive reference to Figures 6A-6AH in his arguments. However, these Figures are generally directed to the memory architecture and addressing and not to the claimed subject matter (particularly not to the claimed subject matter at issue in the rejections). For example, the brief descriptions of Figures 6A-6AH on pages 7-9 (as originally filed, with emphasis added) indicates that:

Fig 6, comprises Figs 6A to 6AH: where Fig 6A is a block diagram representation of a system configuration for implementation of the present invention; Fig 6B is a detailed schematic diagram of clock steering logic; Fig 6C is a detailed schematic diagram of clock gating logic; Fig 6D is a detailed schematic diagram of control logic; Fig 6E is a block diagram of a configuration for implementing the memory of the present invention; Fig 6F is a detailed schematic representation of logic for addressing and scanning-out memory information in accordance with the the memory of Fig 6E; Figs 6G to 6J are detailed block diagram representations in accordance with the memory of Fig 6E; Figs 6K to 6N are detailed schematic diagram representations in accordance with the memory of Figs 6F and Figs 6G to 6J; Figs 6O and 6P are

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detailed schematic diagram representations of one configuration of an address generator that can be used in the system of the present invention; Figs 6Q and 6R are detailed schematic diagram representations of another configuration of an address generator that can be used in the system of the present invention; Fig 6S is a detailed schematic diagram representation of a video DAC channel; Fig 6T is a detailed schematic diagram representation of a video synchronization pulse generator and clock pulse generator; Fig 6U is a detailed schematic diagram representation of joystick interface logic; Fig 6V is a detailed schematic diagram representation of joystick analog to digital converters; Fig 6W is a detailed schematic diagram representation of an address counter arrangement for loading a multiple buffer memory and related logic; Fig 6X is a detailed schematic diagram representation of an address counter arrangement for unloading a multiple buffer memory and related logic; Fig 6Y is a detailed schematic diagram representation of a first channel address multiplexer and RAM arrangement for a multiple channel buffer memory; Fig 6Z is a detailed schematic diagram representation of a first channel RAM input/output multiplexer arrangement for a multiple channel buffer memory; Fig 6AA is a detailed schematic diagram representation of a second channel address multiplexer and RAM arrangement for a multiple channel buffer memory; Fig 6AB is a detailed schematic diagram representation of a second channel RAM input/output multiplexer arrangement for a multiple channel buffer memory; Fig 6AC is a detailed schematic diagram representation of a third channel address multiplexer and RAM arrangement for a multiple channel buffer memory; Fig 6AD is a detailed schematic diagram representation of a third channel RAM input/output multiplexer arrangement for a multiple channel buffer memory; Fig 6AE is a detailed schematic diagram representation of a forth channel address multiplexer and RAM arrangement for a multiple channel buffer memory; Fig 6AF is a detailed schematic diagram representation of a forth channel RAM input/output multiplexer arrangement for a multiple channel buffer memory; Fig 6AG is a detailed schematic diagram representation of a 9-pixel kernel register arrangement for spatial processing; and Fig 6AH is a detailed schematic diagram representation of a weight RAM arrangement for spatial processing.

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Clearly, these Figures are not directed to the subject matter that is being rejected under 35 U.S.C. 112, first paragraph. Other than the last two Figures (which will be addressed below), these all deal with the memory system and the addressing of the memories, as well as joystick controls. They do not at all address the various issues raised in the 112, first paragraph. The last two Figures are indicated in the Brief Description of the Drawings as showing: "Fig 6AG is a detailed schematic diagram representation of a 9-pixel kernel register arrangement for spatial processing; and Fig 6AH is a detailed schematic diagram representation of a weight RAM arrangement for spatial processing". While these two Figures are the closest of those that applicant references to being directed to claimed subject material (as "spatial processing" is a type of image processing which is the general field that applicant's claims are directed towards), a close inspection of these two Figures, as well as the discussion on pages 360-365 of the specification (which are the only locations that these Figures are discussed other than in the Brief Description), clearly shows that these Figures only show the connection of the various registers for holding the data and the registers for holding the weights and do not show how the data is processed nor what this weighting is performing. Further, these Figures are not directed to the various claimed issues that were raised in the 112, first

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paragraph, rejections (such as "weighting and scaling circuits" , a "subpixel vector change circuit" or a "transform processor" as well as the other issues raised in the 112 rejections).

On page 14 of the response, applicant argues that the "Table of Contents provides a top-down road map ... of the sections in the disclosure." However, simply having the specification arranged according to an outline format and in accordance with a Table of Contents does not affect the actual disclosed subject matter. It is the content of the specification not the arrangement of the specification that is at issue and that is the grounds of rejection.

From page 15, line 5, through the bottom of page 16 applicant argues that the "experimental system is an actual reduction to practice system that was actually constructed" and includes "the computer, the computer programs, the computer interface, the address generators, the image memory, the buffer memory, the weight circuitry, the kernel circuitry, and the display monitor" and proceeds to point to various (and varied and scattered) locations where support for these elements can allegedly be found. Firstly, once again, none of these points actually address the issues that were raised in the 112 rejections. Secondly, even accepting, arguendo, that applicant's assertions are correct (it is hereby expressly stated that the Examiner does not agree with applicant's

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assertions that the various elements are disclosed according to applicant's assertions on these pages), the specification does not indicate how these elements function in combination with one another nor is there any discussion or disclosure in the specification of a complete system for combining these elements together so as to produce the claimed system. In particular, it is noted that applicant once again does not indicate how the referenced sections support the issues raised in the 112 rejections, including the "weighting and scaling circuits", a "subpixel vector change circuit" or a "transform processor" (as well as the other issues raised in the 112 rejections). Thirdly, what little applicant does say about these various points in the disclosure is scattered throughout the specification and the recitation of the specification does not indicate how the various elements would be combined into a single functional system.

25. Section 1.2.9 further goes on to argue that the disclosure provides extensive details of "an actual reduction to practice system that was actually constructed" and points to pages 155-60, 241-99, 575-76 and other pages of the specification as showing various features (page 15, lines 5+ of the response) and makes reference to various sections of the specification for disclosure of "a computer filtering an image with a disclosed filter program", "an image storing image information and being accessed by the

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address generators", "a buffer memory", "a weight circuit generating kernel weights", and many other elements (pages 15-16). The applicant concludes by stating "All of these disclosures and more are compatible and are combined in the experimental system" (bottom of page 15; emphasis in original). Firstly, none of these isolated references to various components directly relate to the specific examples of non-enabled claim language pointed out in paragraph 5, pages 3-30 of the Office Action. Further, none of these disclosures provides adequate written descriptions of the claimed subject material. The Examiner disputes the applicant's apparent statement that all of these varied components can be combined in any conceivable fashion by anyone of skill in the art without further guidance. The detailed wiring diagrams and programs so often referenced by the applicant in his response do not appear to directly relate or correspond to the systems claimed or the specific problems pointed out in the Office Action. As just one example, paragraph 4(1), page 15 of the rejection discusses the unsupported claims to "spatial interpolation" "in response to prior pixel image information and next pixel image information". Applicant's response has not made any attempt to rebut the Examiner's position that this feature finds no support in the disclosure, much less explain how it functions in conjunction with the other elements claimed.

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26. Section 1.2.10 is entitled "The Disclosure Is Enabling, Having Schematic Details Down To The Component Level". In this section, applicant argues (on page 17, lines 3-15 that the "disclosure is enabling, including extensive design details"; that "actual 'off the shelf' electrical components are shown interconnected in detailed schematic diagrams"; that "the disclosure even provides well known component schematic symbols with pin designations and with many individual wire connections between circuit components"; that "the Schottky TTL Databook is expressly incorporated by reference into the instant disclosure"; and that "[M]any of the integrated circuit (IC) components that are shown in the schematic diagrams ... are shown in detail in the Data book". With respect to these arguments, it is firstly noted that the Examiner did not find the individual IC components lacking enablement, as they are conventional elements (as apparently argued by applicant) and the incorporation by reference to the Schottky TTL Databook is sufficient to enable the individual IC components. However, the combination of these components to perform the claimed operations (and to form the claimed apparatus) is what is lacking from the disclosure and what is at issue in the rejections. After all, if applicant is arguing that the connections between these components is either: (1) shown by the incorporated references, or (2) obvious in view of the circuit schematics of the components from the

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reference book; then applicant would apparently be arguing that what is being claimed is either shown by the incorporated references or is obvious in view of said references. It is further noted that applicant is arguing the components that make up the memory system and not the missing specifics that were explicitly pointed out in the previous Office Action (and reiterated herein). Apparently, applicant is attempting to argue enablement by implication (i.e., arguing that if one thing is enabled therefore everything is enabled). Clearly, this logic is seriously flawed. Each element must be enabling in, and of, itself. Once again, the issues raised in the previous Office Action (and referenced herein) are not addressed by applicant and, thus, applicant's remarks are not found to be convincing.

27. Further in section 1.2.10, applicant argues that the "specification includes extensive detailed discussions of the circuitry and the interconnection thereof, as illustrated with the following representative quotation regarding Fig. 6B." (page 17, final line through line 2 of page 18, emphasis added). Applicant then goes on to quote (on page 18 of the response) from pages 314-315 of the specification regarding Figure 6B. This is not at all convincing. Firstly, the quoted section does not pertain to the issues raised in the §112, first paragraph, lack of enablement rejections. Secondly, applicant states that the quoted section is

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"representative" of the disclosure. However, this is not an accurate assessment of the actual state of the disclosure. The section applicant states that is "representative" of the disclosure is one of the very few sections of the specification that was not indicated to be lacking an adequate written description (see the Appendix attached to the previous Office Action, where underlined portions indicate sections that lack an adequate written description). Thus, since the quoted section was not at issue in the §112, first paragraph, lack of an adequate written description rejection, the section has no bearing if the other sections of the specification are adequate. Therefore, it is clear that applicant's remarks in this section are not at all convincing as it does not relate to the actual §112, first paragraph, rejections (both the lack of enablement and the lack of an adequate written description).

28. Section 1.3 is entitled "DOUBLE PATENTING ISSUES", and includes sections 1.3.1-1.3.5 directed to various aspects of the double patenting rejections.

29. Section 1.3.1 is entitled "Introduction" and simply states that the applicant traverses the obviousness double patenting rejections.

30. Section 1.3.2 is entitled "The Double Patenting Issues Do Not Establish A Prima Facie Case". In this section applicant argues

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that the double patenting rejections do not establish a prima facie case and lists 10 issues that he indicates are "Various examples of the non-specific and uninformative nature of the double patenting issues" (page 20, lines 8-9). While these issues have each been fully considered, they are not found to be convincing. Issues labeled as "a", "b", "d", "f", "g", "h", "i" and "j" (on pages 20-21 of the response), as well as the associated remarks on page 21 of the response, are all hereby treated together as each of these issues are dependent upon one another and not distinct from one another. These issues argue, in essence, that the rejections are not specific and do not address the individual claims and/or limitations. However, the rejection, in paragraphs 19-28 addresses all of the rejected claims and indicates how the limitations are met by either the prior art. Further, there is no obviousness double patenting in the previous office action. Further, these rejections make reference to the prior art rejections that address how the prior art meets the claim recitations. As to issues "c" and "e" applicant makes allegations but does not support them with any citations or documentation. Specifically, issue "c" states that "Each of the instant claims has distinguishing limitations that are not found in the patent claims" (page 20, lines 18-19). However, this is an unsupported allegation as applicant does not provide anything to prove this allegation, and the applicant does

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not show any specific distinguishing limitations between the instant claims and the Patent claims. . As to issue "e", applicant argues that the "Examiner ignored the restriction requirements in ancestor applications." (page 20, last two lines). However, the applicant does not at all indicate what "restriction requirements" he is referring to nor does he indicate what claims he is making reference to nor does he indicate what "ancestor applications" had these "restriction requirements" made in. Therefore, while these "issues" have been fully considered, in view of the above remarks, they are not found to be convincing.

31. Section 1.3.3 is entitled "The Instant Claims Are Independent Or Distinct From The Claims Of The Patent". in this section applicant argues that "the instant claims do not recite, do not need, and are not dependent on the inventions claimed in the Patent." (page 22, last line -page 23, line 5, of the response). Applicant further argues that "the system of the instant application and the systems of the Patent are independent of (not dependent on) each other" (page 23, lines 8-9, emphasis in original). Additionally, applicant argues that "the system claimed in the instant application and the systems of the Patent can each be separately manufactured, used and sold. Hence, the instant claims and the Patent claims are distinct from each other" (page 23, lines 11-14, emphasis in original) and that the "instant claims are

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therefore independent or distinct from the Patent claims" (page 23, lines 20-21). However, the Examiner disagrees with the allegations presented by the applicant. As stated above, there is no double patenting in the previous office action. Further, these rejections make reference (and incorporate by reference) to the prior art rejections that address how the prior art meets the claim recitations. Additionally, while it is true that the Examiner has the burden to show how a rejection is specifically applied to each claim, the exemplary showing with respect to the claims individually discussed in the rejection is enough to give the applicant fair notice of how the rejection is applied to each and every other claim. The above cited paragraphs establish a prima facie showing of the unpatentability of the instant claims and the burden shifts to the applicant to show, if he can, patentable distinctions between the instant claims and those of the patents. Therefore, applicant's remarks are not persuasive on this issue.

32. Section 1.3.4 is entitled "There Are Many Differences Between The Instant Claims And The Patent Claims". The statements presented in the paragraph above directed to section 1.3.3 are thus incorporated herein.

33. Section 1.3.5 is entitled "The Federal Circuit Requires A Limitation-By-Limitation Analysis, But The Double Patenting Issues Do Not Even Provide A Claim-By-Claim Analysis". In this section

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the applicant argues that the "Federal Circuit requires that rejections be supported on a limitation by limitation basis with specific fact findings for each contested limitation and satisfactory explanations for such findings" (page 24, lines 6-9 of the response). The applicant further contends that "the double patenting issues fail to meet these requirements (page 24, lines 13-14). However, the Examiner disagrees with the allegations presented by the applicant. As stated above, the double patenting rejections are explained in paragraphs 31-33 which address all of the rejected claims and indicates how the limitations are met by either the prior art or applicant's earlier patent. Further, applicant's earlier patent is addressed as to how those claim limitations are interpreted and how the current claims are read on the combination of the patent and the prior art. Further, these rejections make reference (and incorporate by reference) to the prior art rejections that address how the prior art meets the claim recitations. Additionally, while it is true that the Examiner has the burden to show how a rejection is specifically applied to each claim, the exemplary showing with respect to the claims individually discussed in the rejection is enough to give the applicant fair notice of how the rejection is applied to each and every other claim. The above cited paragraphs establish a prima facie showing of the unpatentability of the instant claims and the

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burden shifts to the applicant to show, if he can, patentable distinctions between the instant claims and those of the patents.

34. Section 1.4 is entitled "TRAVERSE OF 37 CFR 1.83 AND 37 CFR 1.75 OBJECTIONS". In this section applicant argues that the "37 CFR 1.83 and 37 CFR 1.75 objections do not establish a prima facie case" (page 25, lines 4-5) and that "the subject features are shown and recited at numerous places in the extensive disclosure, but the objections completely disregard the extensive disclosure and instead makes general statements about the absence of the subject features in the disclosure" (page 25, lines 5-9). However, the Examiner disagrees with these assertions.

35. Firstly, the 1.75 objection was presented by the Examiner in paragraph 11, page 32, of the Office Action. 37 C.F.R. 1.75(d)(1) was cited, reproduced and relied upon in the Office Action and requires (with emphasis added) that:

(d) The terms and the phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description".

The objection (in the Office Action) indicated that the claimed terms did not contain antecedent basis in the originally filed specification as required by 37 CFR 1.75 (d)(1). While the

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objection made (in part) reference to the 112, first paragraph, rejection, it is correct that the 112, first paragraph, requirements and the 37 CFR 1.75 (d)(1) are not identical. However, it is noted that the 37 CFR 1.75 (d)(1) objection differs from the 112 rejection in that 37 CFR 1.75 (d)(1) only requires that the terms used in the claims have "clear support or antecedent basis in the description" while 112, first paragraph, requires that the terms be enabled so as to allow one of ordinary skill in the art to make or use the claimed invention. The reference to the 112, first paragraph, rejection is simply to prevent needing to repeat substantially the same extensive references as in the 112, first paragraph, rejection, as the terms that do not have enablement in the specification also do not have clear antecedent basis in the specification (and, in many instances, are not even used in the originally filed specification). Therefore, since the objection did indicate what material did not meet the requirements of 37 CFR 1.75 (d)(1) the Action did present a prima facie case. Secondly, the 37 CFR 1.83 objection, like the 37 CFR 1.75 (d)(1) discussed above, did refer to the 112, first paragraph rejection. However, this was again clearly for the sake of brevity. The Office Action, in paragraph 8 (page 30), pointed out that the drawings must show all of the claimed limitations. The reference to the 112, first paragraph rejection, was to indicate what the

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problems were with the drawings. So as to clarify the issue, the 37 CFR 1.75 (d)(1) and 37 CFR 1.83 objections are indeed separate and distinct from the 112, first paragraph rejections. 37 CFR 1.75 (d)(1) requires that the claimed terms have antecedent basis in the specification while 112, first paragraph, requires that the specification be enabling. One of these may be met while the other not met. For example, a claimed term may have sufficient basis in the specification to be "ascertainable" while the specification may not be enabling so as to allow one of ordinary skill in the art to make or use the invention. Similarly, 37 CFR 1.83 requires that all of the claimed limitations are shown in the drawings. 37 CFR 1.83 is hereby reproduced (with emphasis added):

(a) The drawing in a nonprovisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box).

(b) When the invention consists of an improvement on an old machine the drawing must when possible exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

(c) Where the drawings in a nonprovisional application do not comply with the requirements of paragraphs (a) and (b) of this section, the examiner shall require such additional illustration within a time period of not less than two months from the date of the sending of a notice thereof. Such corrections are subject

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to the requirements of § 1.81(d).

37 CFR 1.83 requires that "The drawing in a nonprovisional application must show every feature of the invention specified in the claims." (emphasis added) while 112, first paragraph, requires that the specification be enabling. One of these may be met while the other not met. For example, a claimed term may be enabled but may not be shown in the drawings, or, conversely, a claimed element may not be enabled to allow one of ordinary skill in the art to make or use the invention but the claimed element may well be shown in the drawings. Further, while the requirements of 37 CFR 1.75 (d) (1) and 37 CFR 1.83 are distinct from those of 35 U.S.C. 112, first paragraph, they may well overlap. For example, if a claimed term does not have antecedent basis in the specification or is not shown in the drawings, this does not, in itself, mean that the claimed term is lacking enablement. However, it may be an indication (when taken with other evidence) that the claimed term/limitation is not enabled since the disclosure and drawings make up what is the specification. But, to emphasize the point, the 37 CFR 1.75 (d) (1) and 37 CFR 1.83 are distinct from those of 35 U.S.C. 112, first paragraph, and can be overcome separately and the failure to overcome one does not result in the failure to overcome the others.

36. Additionally, it is noted that there is also a second

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objection to the drawings (paragraph 17, page 52, of the Office Action). While this objection did not explicitly reference 37 CFR 1.83, it is the opinion of the Examiner that this second objection should also be addressed in response to applicant's remarks. This objection to the drawings was based on the specification makes reference to non-existent Figures and that the numbering of the Figures is apparently incorrect as there are numbers that are left out in the numbering of the Figures. Applicant has not in any way addressed this objection in his response. This is addresses in the response to that amendment, below.)

37. Secondly, while applicant argues that "the subject features are shown and recited at numerous places in the extensive disclosure, but the objections completely disregard the extensive disclosure and instead makes general statements about the absence of the subject features in the disclosure" (page 25, lines 5-10, of the response) he does not provide any evidence to support this assertion. Where exactly is there antecedent basis in the originally filed specification for the indicated (in the Office Action) terms and where are these limitations shown in the drawings? Applicant does not provide any suggestion to the answers to these questions.

38. Section 1.5 is entitled "35 USC 103 REJECTIONS", and includes sections 1.5.1-1.5.5 directed to various aspects of the 103

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rejections.

39. Section 1.5.1 is entitled "The 35 USC 103 Rejections Do Not Establish A Prima Facie Case". In this section, applicant argues that the "103 rejections do not approach the specificity to establish a prima facie case and to inform the Applicant of the nature of the rejections" (page 26, lines 4-6) and presents 20 "examples of the non-specific and uninformative nature of the instant rejections" (page 26, lines 12-13 of the response) on pages 17-19 of the response. These "examples" have all been fully considered (both individually and collectively), but are not found to be convincing in overcoming the various 103 rejections. Specifically, as with applicant's earlier cited remarks, these allegations do not make any specific references to specific rejections or to specific claims that are not met by the applied prior art. Thus, applicant's "examples" are presented in a vacuum without any references to the actual rejections presented in the Office Action and without any mention of the applied prior art. Specifically, each of the issues presented by the applicant are just broad allegations without any support cited by applicant. For example, issues "a", "b" and "c" respectively recite that the examiner did not: "determine the scope and content of the prior art", "ascertain the differences between the prior art and the claims in issue"; and "resolve the level of ordinary skill in the

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pertinent art". However, a review of the 103 rejections on pages 53-59 of the Office Action indicates that this allegation is not accurate. The Office Action did indeed meet all of the requirements for making a proper 103 rejection. Other of applicant's assertions include: "secondary considerations" not considered by the Examiner (issue "d"); "impermissible hindsight" (issue "g"); that "relevant claim limitations" were disregarded (issue "o"); and "obviousness of non-analogous art" (issue "s"). However, all of these arguments are simply bald allegations without anything to support them. There is no citation of where in the Office Action these issues were not addressed or how the Office Action was specifically lacking. As to issue "d", applicant has not indicated what "secondary consideration" were not considered by the Examiner. Therefore, applicant's recitations in section 1.5.1, while being fully considered to the extent that applicant has presented them, are not found to be convincing to overcome the 103 rejections.

40. Section 1.5.2 is entitled "The Rejections Rely On Improper Hindsight". In this section, the applicant asserts that the "103 USC rejections rely on improper hindsight" (page 30, line 5) and that the "prior art items themselves must suggest the desirability and thus the obviousness of making the combination" (page 30, lines 21-23). As to the first point (of "improper hindsight"), the

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applicant has not presented any specific instances where the Examiner used "improper hindsight". As done with nearly all of the other arguments presented in his response, applicant simply makes the allegation without presenting any support of where this actually was used by the Examiner. While the Examiner does agree that "improper hindsight" is not allowed to be used in making a proper 103 rejection, the Examiner does not agree that "improper hindsight" was used in making the 103 rejections in the Office Action. As to the second point (that the "prior art items themselves must suggest the desirability and thus the obviousness of making the combination"), while the references may explicitly suggest the combination, this is not required to make a proper 103 rejection. An explicit suggestion is not required to be in the references themselves for a claim to be properly rejected under 35 U.S.C. 103. There are many other places from where the suggestion of combining (and the obviousness of doing so) may be found. These places include what is well known to one of ordinary skill in the art or reasons provided by the Examiner as to why the combination of the references would have been obvious, in addition to the references themselves (either explicitly or implicitly). Also, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or

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motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 19880; *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). If 35 U.S.C. 103 required (as applicant is apparently arguing) that there be an explicit suggestion this would practically remove 35 U.S.C. 103 from existence as the reference would then contain all of the claimed limitations and would apparently be a rejection under 35 U.S.C. 102.

41. Section 1.5.3 is entitled "Graham v. Deere". In this section, the applicant argues that the "starting point of any analysis of the obviousness or non-obviousness of a claimed invention is the Supreme Court's decision in Graham v. John Deere Co." (page 32, first 3 lines) and then proceeds over the following two pages to explain this court decision, as well as other related court decisions. It is correct that in making a 103 rejection that the dictates of Graham v. John Deere Co. should be followed. These dictates were indeed followed in the 103 rejections in this application. Specifically, the 103 rejections indicate: (1) what the primary reference shows; (2) what the primary reference does not show; (3) what the secondary reference(s) shows; (4) how the references can be combined; and (5) why they can be combined. Since these points were made in the 103 rejections, the 103

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rejection is proper. Further, it is noted that, not only does applicant not indicate which dictates of Graham v. John Deere Co. were not followed, he does not even suggest that these dictates were not followed. Therefore, it is unclear exactly what is the intent of applicant's remarks in this section other than to recite the case law concerning 103 rejections.

42. Section 1.5.4 is entitled "Criteria". In this section, the applicant argues "To establish a prima facie case of obviousness, three basic criteria must be met" and then goes on to indicate the three criteria referenced (page 34, lines 4-11, of the response). However, the applicant does not indicate that the rejections in the Office Action failed to meet these criteria. Also, applicant does not refer to the rejections in the Office Action at all in these remarks. Secondly, applicant argues that a "statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art at the time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is no sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references" (page 34, lines 21-24, of the response). From applicant's remarks, it appears that this is taken from the decision cited at the end of the above quoted paragraph.

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The section quoted by applicant does not appear to be from the 103 rejections in Office Action. Further, once again applicant does not refer to the actual rejections nor does he actually even suggest that the Examiner failed to meet this criteria. Thus, after a review of the rejections, the Examiner is of the opinion that the rejections did meet the criteria for making a 103 rejection and establishing a prima facie case for obviousness.

43. Section 1.5.5 is entitled "The '103 Rejections Are Improperly Bases Upon Inherency". In this section, the applicant argues that the Examiner "improperly relies on inherency" and that "the inherency contention is erroneous" (page 34, lines 27-28, of the response). Applicant then goes on to cite and quote various decisions to attempt to support the requirements that are needed to make an inherency rejection. In response, it is firstly noted that, once again, applicant has not pointed out where in the 103 rejections an inherency argument was made nor in what specific way the inherency argument was lacking. Secondly, a review of the Office Action indicates that the term "inherent" (and related terms; e.g., inherently, inherency, etc.) does appear in the 103 rejection two times. The uses of "inherent" (or related terms) in the 103 rejections are:

"March must inherently have an input circuit to

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input the image information in the database memory. Therefore, March at least obviously, if not inherently must be using an input circuit because the use of an input circuit to input image information is conventional and well-known in the art (official notice). It would have been obvious to one of ordinary skill to include this old and well-known input circuit to input image information in the database memory." (page 56, paragraph 21, emphasis added)

While this instance do use the term "inherently" in the rejections, it is clear that the reference is as part of the 103 argument for obviousness. The only other use of the term "inherent" is as part of the 103 rejection. This recitation is "interpolation process inherently includes subpixel interpolation and subpixel resolution" (page 57, paragraph 21, emphasis added). Therefore, it is unclear as to exactly what applicant is arguing in this section regarding the use of the term "inherency" as used by the Examiner in the 103 prior art rejections.

44. Section 1.6 is entitled "TRAVERSE OF ALLEGATION OF ADMISSIONS, INHERENCY, CONVENTIONAL, AND WELL KNOWN". In this section, the applicant argues that the "Examiner makes various unsupported allegations regarding the disclosure and then alleges an admission of lack of support by the disclosure" (page 36, lines 13-15, of the

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response). Firstly, it is noted that the applicant once again has not indicated where in the Office Action the Examiner makes these "various unsupported allegations regarding the disclosure and then alleges an admission of lack of support by the disclosure" asserted by applicant. He has not even indicated what the alleged various unsupported allegations was or why it was being traversed. As to applicant's assertion that the Examiner stated "various unsupported allegations regarding the disclosure and then alleges an admission of lack of support by the disclosure" it is unclear exactly what applicant is referring to in the Office Action. The only thing that a review of the Office Action indicated that may correspond to applicant's assertion is the statements made by the Examiner with regard to the numerous incorporations by reference by the applicant in the specification. On pages 35-36 of the Office Action the Examiner indicated that:

"At this time it is assumed that these incorporations do not incorporate 'essential' subject matter since these incorporations include the incorporation of material from sources other than (1) a U.S. Patent or (2) an allowed U.S. application. If, during the prosecution of this application, it should become apparent that these incorporations do indeed improperly incorporate 'essential' subject matter (such as applicant attempting to rely upon one or more of the references to overcome the various 112 rejections) applicant will, at that time, be required to remove the (then) improper incorporation."

Again, from a review of this section, it does not appear that the Examiner "alleges an admission of lack of support by the

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disclosure" as stated by applicant. If this is not the section applicant is making reference to, it is suggested that he specifically point out what parts of the Office Action he is referencing.

45. Section 1.7 is titled "THE § 132 ISSUE". In this section, Applicant argues that "the claims are alleged to include new matter under § 132 and the claims are required to be cancelled. However, amended claims are not subject to such a § 132 objection" (page 37, lines 2-3). Applicant is apparently referring to the Examiner's statement, "additionally, since the [claim] limitations ... are not supported by the originally filed specification these limitations constitute new matter and should therefore be canceled in accordance with 35 U.S.C. 132". First, the statement made by Examiner was made under the heading of "**Claim Rejections - 35 U.S.C. § 112, 1st Paragraph**" as part of, and in support of the 35 U.S.C. 112, first paragraph rejections where a complete explanation with examples of lack of enablement was set forth. That is, Examiner has shown, by example, how Applicant's invention is not supported by the original disclosure. Therefore, since the claimed subject matter has been added to the application and did not exist in the original disclosure, the current claimed subject matter constitutes "new matter". Regarding such "new matter", 35 U.S.C. 132 states (emphasis added):

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"Whenever, on examination, any claim for a patent is rejected, or any objection or requirement made, the Commissioner shall notify the applicant thereof, stating the reasons for such rejection, or objection or requirement, together with such information and references as may be useful in judging of the propriety of continuing the prosecution of this application; and if after receiving such notice, the applicant persists in his claim for a patent, with or without amendment, the application shall be reexamined. **No amendment shall introduce new matter into the disclosure of the invention.**"

To emphasize, 35 U.S.C. 132 requires that no new matter be added, by amendment, to the "disclosure". The disclosure is comprised of the specification, claims and drawings. In summary, as Applicant has added new matter, by amendment, to the claims as exemplified by Examiner, and since the claims are part of the "disclosure", the "authority" to require cancellation is derived directly from 35 U.S.C. 112 and 35 U.S.C. 132.

46. Section 1.8 is titled "THE § 101 REJECTION REGARDING SIGNAL TERMINOLOGY IS IMPROPER IN LIGHT OF THE STATUTE AND THE LAW OF THE FEDERAL CIRCUIT". In this section, Applicant argues that "the §101 rejection of the claims reciting signal terminology is improper" (page 37, lines 12-13) because "the eligible products identified in paragraph 101 are machines, manufactures, and compositions of matter" (page 38, lines 1-2) and "signals constitute 'manufactures'

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because the signals are physical things" (page 38, line 4). Applicant recites a court decision that equates "signals" to "physical things" (Arrhythmia Research Technology Inc. V. Corazonix Corp.) at page 38 of the response. In addition, Applicant recites a court decision (Diamond v. Chakrabarty) defining a "manufacture" as "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties or combinations, whether by hand-labor or by machinery" (bottom of page 38). The rejected signal claims are claims 302-305 and 308-309, which recite limitations for a "a coarse matched diagonally scanned signal" set forth in a previous claim and " a vector difference scaled weighted signal". Applicant's asserts, citing the Arrhythmia decision, that signals are "physical things" (page 38, lines 4-6), but apparently ignores more substantive issues. Even assuming, for the sake of argument, that signals are inherently physical, this fact does not render a claim per se statutory. By the same argument, a beams of light or magnetic fields could be, broadly, termed "physical things" and yet are explicitly barred from patentability as being "natural phenomena". Even if applicant's "signal" or "image data" can be construed as manufactures, they are not automatically statutory subject matter. Rather, the question is whether or not applicant's claims constitute functional elements or non-functional descriptive

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matter. Non-functional descriptive material includes but is not limited to music, literary works, and a compilation or mere arrangement of data (MPEP 2106 IV.B.1 - emphasis added). On its face, "a weighted scaled truncated signal", absent any statement of how this signal interacts with other elements to perform a useful function, this claim appears to recite a mere arrangement of data. Merely claiming nonfunctional descriptive material stored in a computer-readable medium (such as in claim 396) does not make it statutory. Such a result would exalt form over substance. *In re Sarker*, 588 2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978). Alternately, one could construe a signal or a stored image as "data structures", however, data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are neither physical "things" nor statutory processes. See *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760. Applicant's arguments on pages 37-38 that claims 302-3305 and 308-309 constitute statutory "manufactures" are not convincing.

47. In conclusion, all of applicant's arguments have been fully considered, but they are not found to be convincing to overcome the various rejections presented in the previous Office Action. Further, all of applicant's arguments are broad, non-specific arguments and contain no specifics and no specific mentions of the actual rejections or make any specific reference to the claims or

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specification to overcome the rejections. Additionally, applicant also extensively argues rejections that were not even made in the last Office Action.

48. In conclusion, these above paragraphs address the remarks presented by applicant in sections 1.1, and 1.2.1-1.2.7 of applicant's response. All of these remarks have been fully considered, but none of them are convincing to overcome the current 112 rejections. Further, none of the arguments presented by applicant in these sections specifically addresses any of the rejections nor do any of the arguments specifically address any of the claims nor where the alleged support for the claims can be found in the originally filed specification.

49. Section 1.3 is entitled "DOUBLE PATENTING ISSUES", and includes sections 1.3.1-1.3.5 directed to various aspects of the double patenting rejections.

50. Section 1.3.1 is entitled "Introduction" and simply states that the applicant traverses the double patenting rejections.

51. Section 1.3.2 is entitled "The Double Patenting Issues Do Not Establish A Prima Facie Case". In this section applicant argues that the double patenting rejections do not establish a prima facie case and lists 10 issues that he indicates are "Various examples of the non-specific and uninformative nature of the double patenting

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issues" (page 20, lines 8-9). While these issues have each been fully considered, they are not found to be convincing. Issues labeled as "a", "b", "d", "f", "g", "h", "i" and "j" (on pages 20-21 of the response), as well as the associated remarks on page 21 of the response, are all hereby treated together as each of these issues are dependent upon one another and not distinct from one another. These issues argue, in essence, that the rejections are not specific and do not address the individual claims and/or limitations. However, the rejection, in paragraphs 23-27 addresses all of the rejected claims and indicates how the limitations are met by either the prior art or applicant's earlier patent. Further, applicant's earlier patent is addressed as to how those claim limitations are interpreted and how the current claims are read on the combination of the patent and the prior art. Further, these rejections make reference to the prior art rejections that address how the prior art meets the claim recitations. As to issues "c" and "e" applicant makes allegations but does not support them with any citations or documentation. Specifically, issue "c" states that "Each of the instant claims has distinguishing limitations that are not found in the patent claims" (page 20, lines 18-19). However, this is an unsupported allegation as applicant does not provide anything to prove this allegation, and the applicant does not show any specific distinguishing

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limitations between the instant claims and the Patent claims. As to issue "e", applicant argues that the "Examiner ignored the restriction requirements in ancestor applications." (page 20, last two lines). However, the applicant does not at all indicate what "restriction requirements" he is referring to nor does he indicate what claims he is making reference to nor does he indicate what "ancestor applications" had these "restriction requirements" made in. Therefore, while these "issues" have been fully considered, in view of the above remarks, they are not found to be convincing.

52. Section 1.3.3 is entitled "The Instant Claims Are Independent Or Distinct From The Claims Of The Patent". in this section applicant argues that "the instant claims do not recite, do not need, and are not dependent on the inventions claimed in the Patent." (page 22, lines 15-16, of the response). Applicant further argues that "the system of the instant application and the systems of the Patent are independent of (not dependent on) each other" (page 23, lines 8-9, emphasis in original). Additionally, applicant argues that "the system claimed in the instant application and the systems of the Patent can each be separately manufactured, used and sold. Hence, the instant claims and the Patent claims are distinct from each other" (page 23, lines 11-14, emphasis in original) and that the "instant claims are therefore independent or distinct from the Patent claims" (page 23, lines 20-

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21). However, the Examiner disagrees with the allegations presented by the applicant. As stated above, the double patenting rejections are explained in paragraphs 23-27 which address all of the rejected claims and indicates how the limitations are met by either the prior art or applicant's earlier patent. Further, applicant's earlier patent is addressed as to how those claim limitations are interpreted and how the current claims are read on the combination of the patent and the prior art. Further, these rejections make reference (and incorporate by reference) to the prior art rejections that address how the prior art meets the claim recitations. Additionally, while it is true that the Examiner has the burden to show how a rejection is specifically applied to each claim, the exemplary showing with respect to the claims individually discussed in the rejection is enough to give the applicant fair notice of how the rejection is applied to each and every other claim. The above cited paragraphs establish a prima facie showing of the unpatentability of the instant claims and the burden shifts to the applicant to show, if he can, patentable distinctions between the instant claims and those of the patents. Therefore, applicant's remarks are not persuasive on this issue.

53. Section 1.3.4 is entitled "There Are Many Differences Between The Instant Claims And The Patent Claims". The statements presented in the paragraph above directed to section 1.3.3 are thus

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incorporated herein.

54. Section 1.3.5 is entitled "The Federal Circuit Requires A Limitation-By-Limitation Analysis, But The Double Patenting Issues Do Not Even Provide A Claim-By-Claim Analysis". In this section the applicant argues that the "Federal Circuit requires that rejections be supported on a limitation by limitation basis with specific fact findings for each contested limitation and satisfactory explanations for such findings" (page 24, lines 6-9 of the response). The applicant further contends that "the double patenting issues fail to meet these requirements (page 24, lines 13-14). However, the Examiner disagrees with the allegations presented by the applicant. As stated above, the double patenting rejections are explained in paragraphs 24-28 which address all of the rejected claims and indicates how the limitations are met by either the prior art or applicant's earlier patent. Further, applicant's earlier patent is addressed as to how those claim limitations are interpreted and how the current claims are read on the combination of the patent and the prior art. Further, these rejections make reference (and incorporate by reference) to the prior art rejections that address how the prior art meets the claim recitations. Additionally, while it is true that the Examiner has the burden to show how a rejection is specifically applied to each claim, the exemplary showing with respect to the claims

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individually discussed in the rejection is enough to give the applicant fair notice of how the rejection is applied to each and every other claim. The above cited paragraphs establish a prima facie showing of the unpatentability of the instant claims and the burden shifts to the applicant to show, if he can, patentable distinctions between the instant claims and those of the patents.

55. In conclusion, the above paragraphs address the remarks presented by applicant in sections 1.3-1.3.5 of applicant's response. All of these remarks have been fully considered, but none of them are convincing to overcome the current double patenting rejections. Further, none of the arguments presented by applicant in these sections specifically addresses any of the rejections nor do any of the arguments specifically address any of the claims nor how the rejected claims differ from the patented claims in view of the prior art.

56. Section 1.4 is entitled "TRAVERSE OF 37 CFR 1.83 AND 37 CFR 1.75 OBJECTIONS". In this section applicant argues that the "37 CFR 1.83 and 37 CFR 1.75 objections do not establish a prima facie case" (page 25, lines 4-5) and that "the subject features are shown and recited at numerous places in the extensive disclosure, but the objections completely disregard the extensive disclosure and instead makes general statements about the absence of the subject features in the disclosure" (page 25, lines 5-9). However, the

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Examiner disagrees with these assertions.

57. Firstly, the 1.75 objection was presented by the Examiner in paragraph 10, page 24, of the Office Action. 37 C.F.R. 1.75(d)(1) was cited, reproduced and relied upon in the Office Action and requires (with emphasis added) that:

(d) The terms and the phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description".

The objection (in the Office Action) indicated that the claimed terms did not contain antecedent basis in the originally filed specification as required by 37 CFR 1.75 (d)(1). While the objection made (in part) reference to the 112, first paragraph, rejection, it is correct that the 112, first paragraph, requirements and the 37 CFR 1.75 (d)(1) are not identical. However, it is noted that the 37 CFR 1.75 (d)(1) objection differs from the 112 rejection in that 37 CFR 1.75 (d)(1) only requires that the terms used in the claims have "clear support or antecedent basis in the description" while 112, first paragraph, requires that the terms be enabled so as to allow one of ordinary skill in the art to make or use the claimed invention. The reference to the 112, first paragraph, rejection is simply to prevent needing to

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repeat substantially the same extensive references as in the 112, first paragraph, rejection, as the terms that do not have enablement in the specification also do not have clear antecedent basis in the specification (and, in many instances, are not even used in the originally filed specification). Therefore, since the objection did indicate what material did not meet the requirements of 37 CFR 1.75 (d) (1) the Action did present a prima facie case. Secondly, the 37 CFR 1.83 objection, like the 37 CFR 1.75 (d) (1) discussed above, did refer to the 112, first paragraph rejection. However, this was again clearly for the sake of brevity. The Office Action, in paragraph 9 (page 24), pointed out that the drawings must show all of the claimed limitations. The reference to the 112, first paragraph rejection, was to indicate what the problems were with the drawings. So as to clarify the issue, the 37 CFR 1.75 (d) (1) and 37 CFR 1.83 objections are indeed separate and distinct from the 112, first paragraph rejections. 37 CFR 1.75 (d) (1) requires that the claimed terms have antecedent basis in the specification while 112, first paragraph, requires that the specification be enabling. One of these may be met while the other not met. For example, a claimed term may have sufficient basis in the specification to be "ascertainable" while the specification may not be enabling so as to allow one of ordinary skill in the art to make or use the invention. Similarly, 37 CFR 1.83 requires that

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all of the claimed limitations are shown in the drawings. 37 CFR 1.83 is hereby reproduced (with emphasis added):

(a) The drawing in a nonprovisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box).

(b) When the invention consists of an improvement on an old machine the drawing must when possible exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

(c) Where the drawings in a nonprovisional application do not comply with the requirements of paragraphs (a) and (b) of this section, the examiner shall require such additional illustration within a time period of not less than two months from the date of the sending of a notice thereof. Such corrections are subject to the requirements of § 1.81(d).

37 CFR 1.83 requires that "The drawing in a nonprovisional application must show every feature of the invention specified in the claims." (emphasis added) while 112, first paragraph, requires that the specification be enabling. One of these may be met while the other not met. For example, a claimed term may be enabled but may not be shown in the drawings, or, conversely, a claimed element may not be enabled to allow one of ordinary skill in the art to make or use the invention but the claimed element may well be shown in the drawings. Further, while the requirements of 37 CFR 1.75

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(d)(1) and 37 CFR 1.83 are distinct from those of 35 U.S.C. 112, first paragraph, they may well overlap. For example, if a claimed term does not have antecedent basis in the specification or is not shown in the drawings, this does not, in itself, mean that the claimed term is lacking enablement. However, it may be an indication (when taken with other evidence) that the claimed term/limitation is not enabled since the disclosure and drawings make up what is the specification. But, to emphasize the point, the 37 CFR 1.75 (d)(1) and 37 CFR 1.83 are distinct from those of 35 U.S.C. 112, first paragraph, and can be overcome separately and the failure to overcome one does not result in the failure to overcome the others.

58. Additionally, it is noted that there is also a second objection to the drawings (paragraph 18, page 46, of the Office Action). While this objection did not explicitly reference 37 CFR 1.83, it is the opinion of the Examiner that this second objection should also be addressed in response to applicant's remarks. This objection to the drawings was based on the specification makes reference to non-existent Figures and that the numbering of the Figures is apparently incorrect as there are numbers that are left out in the numbering of the Figures. Applicant has not in any way addressed this objection in his response (though applicant does apparently address these objections, to some extent, in the

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amendment filed January 4, 1999, which amended the specification.

This is addresses in the response to that amendment, below.)

59. Secondly, while applicant argues that "the subject features are shown and recited at numerous places in the extensive disclosure, but the objections completely disregard the extensive disclosure and instead makes general statements about the absence of the subject features in the disclosure" (page 25, lines 4-9, of the response) he does not provide any evidence to support this assertion. Where exactly is there antecedent basis in the originally filed specification for the indicated (in the Office Action) terms and where are these limitations shown in the drawings? Applicant does not provide any suggestion to the answers to these questions.

60. Section 1.5 is entitled "35 USC 103 REJECTIONS", and includes sections 1.5.1-1.5.5 directed to various aspects of the 103 rejections.

61. Section 1.5.1 is entitled "The 35 USC 103 Rejections Do Not Establish A Prima Facie Case". In this section, applicant argues that the "103 rejections do not approach the specificity to establish a prima facie case and to inform the Applicant of the nature of the rejections" (page 26, lines 4-6) and presents 20 "examples of the non-specific and uninformative nature of the instant rejections" (page 26, lines 12-13 of the response) on pages

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17-19 of the response. These "examples" have all been fully considered (both individually and collectively), but are not found to be convincing in overcoming the various 103 rejections. Specifically, as with applicant's earlier cited remarks, these allegations do not make any specific references to specific rejections or to specific claims that are not met by the applied prior art. Thus, applicant's "examples" are presented in a vacuum without any references to the actual rejections presented in the Office Action and without any mention of the applied prior art. Specifically, each of the issues presented by the applicant are just broad allegations without any support cited by applicant. For example, issues "a", "b" and "c" respectively recite that the examiner did not: "determine the scope and content of the prior art", "ascertain the differences between the prior art and the claims in issue"; and "resolve the level of ordinary skill in the pertinent art". However, a review of the 103 rejections on pages 46-51 of the Office Action indicates that this allegation is not accurate. The Office Action did indeed meet all of the requirements for making a proper 103 rejection. Other of applicant's assertions include: "secondary considerations" not considered by the Examiner (issue "d"); "impermissible hindsight" (issue "g"); that "relevant claim limitations" were disregarded (issue o"); and non-analogous art (issue "s"). However, all of

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these arguments are simply bald allegations without anything to support them. There is no citation of where in the Office Action these issues were not addressed or how the Office Action was specifically lacking. As to issue "d", applicant has not indicated what "secondary consideration" were not considered by the Examiner. Therefore, applicant's recitations in section 1.5.1, while being fully considered to the extent that applicant has presented them, are not found to be convincing to overcome the 103 rejections.

62. Section 1.5.2 is entitled "The Rejections Rely On Improper Hindsight". In this section, the applicant asserts that the "103 USC rejections rely on improper hindsight" (page 30, line 5) and that the "prior art items themselves must suggest the desirability and thus the obviousness of making the combination" (page 30, lines 21-23). As to the first point (of "improper hindsight"), the applicant has not presented any specific instances where the Examiner used "improper hindsight". As done with nearly all of the other arguments presented in his response, applicant simply makes the allegation without presenting any support of where this actually was used by the Examiner. While the Examiner does agree that "improper hindsight" is not allowed to be used in making a proper 103 rejection, the Examiner does not agree that "improper hindsight" was used in making the 103 rejections in the Office Action. As to the second point (that the "prior art items

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themselves must suggest the desirability and thus the obviousness of making the combination"), while the references may explicitly suggest the combination, this is not required to make a proper 103 rejection. An explicit suggestion is not required to be in the references themselves for a claim to be properly rejected under 35 U.S.C. 103. There are many other places from where the suggestion of combining (and the obviousness of doing so) may be found. These places include what is well known to one of ordinary skill in the art or reasons provided by the Examiner as to why the combination of the references would have been obvious, in addition to the references themselves (either explicitly or implicitly). Also, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 19880; *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). If 35 U.S.C. 103 required (as applicant is apparently arguing) that there be an explicit suggestion this would practically remove 35 U.S.C. 103 from existence as the reference would then contain all of the claimed limitations and would apparently be a rejection under 35 U.S.C. 102.

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63. Section 1.5.3 is entitled "Graham v. Deere". In this section, the applicant argues that the "starting point of any analysis of the obviousness or non-obviousness of a claimed invention is the Supreme Court's decision in Graham v. John Deere Co." (page 32, first 3 lines) and then proceeds over the following two pages to explain this court decision, as well as other related court decisions. It is correct that in making a 103 rejection that the dictates of Graham v. John Deere Co. should be followed. These dictates were indeed followed in the 103 rejections in this application. Specifically, the 103 rejections indicate: (1) what the primary reference shows; (2) what the primary reference does not show; (3) what the secondary reference(s) shows; (4) how the references can be combined; and (5) why they can be combined. Since these points were made in the 103 rejections, the 103 rejection is proper. Further, it is noted that, not only does applicant not indicate which dictates of Graham v. John Deere Co. were not followed, he does not even suggest that these dictates were not followed. Therefore, it is unclear exactly what is the intent of applicant's remarks in this section other than to recite the case law concerning 103 rejections.

64. Section 1.5.4 is entitled "Criteria". In this section, the applicant argues "To establish a prima facie case of obviousness, three basic criteria must be met" and then goes on to indicate the

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three criteria referenced (page 34, lines 4-11, of the response). However, the applicant does not indicate that the rejections in the Office Action failed to meet these criteria. Also, applicant does not refer to the rejections in the Office Action at all in these remarks. Secondly, applicant argues that a "statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art at the time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is no sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references" (page 34, lines 21-24, of the response). From applicant's remarks, it appears that this is taken from the decision cited at the end of the above quoted paragraph. The section quoted by applicant does not appear to be from the 103 rejections in Office Action. Further, once again applicant does not refer to the actual rejections nor does he actually even suggest that the Examiner failed to meet this criteria. Thus, after a review of the rejections, the Examiner is of the opinion that the rejections did meet the criteria for making a 103 rejection and establishing a prima facie case for obviousness.

65. Section 1.5.5 is entitled "The '103 Rejections Are Improperly Bases Upon Inherency". In this section, the applicant argues that

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the Examiner "improperly relies on inherency", and that "the inherency contention is erroneous" (page 34, lines 26-27, of the response). Applicant then goes on to cite and quote various decisions to attempt to support the requirements that are needed to make an inherency rejection. In response, it is firstly noted that, once again, applicant has not pointed out where in the 103 rejections an inherency argument was made nor in what specific way the inherency argument was lacking. Secondly, a review of the Office Action indicates that the term "inherent" (and related terms; e.g., inherently, inherency, etc.) does appear in the 103 rejection two times. The uses of "inherent" (or related terms) in the 103 rejections are:

"Interpolation process inherently includes subpixel interpolation and temporal interpolation. Therefore, it would have been obvious to one of ordinary skill to include interpolation process, transform processor and input circuit shown by Nickel in the object simulation system of march because these procedures are very conventional in nearly all image processing systems"

(page 49, paragraph 20, emphasis added)

While this instance do use the term "inherently" in the

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rejections, it is clear that the reference is as part of the 103 argument for obviousness. The only other use of the term "inherent" is as part of the 101 double patenting rejections. This recitation is "the inclusion or exclusion of input and memory access circuitry does not patentably distinguish the claims as such means would be recognized by one skilled in the art as necessary and inherent components of any signal processing system whether they are explicitly claimed or not" (emphasis added). Therefore, it is unclear as to exactly what applicant is arguing in this section regarding the use of the term "inherency" as used by the Examiner in the 103 prior art rejections and the 101 double patenting rejections.

66. Section 1.6 is entitled "TRAVERSE OF ALLEGATION OF ADMISSIONS, INHERENCY, CONVENTIONAL, AND WELL KNOWN". In this section, the applicant argues that the "Examiner makes various unsupported allegations regarding the disclosure and then alleges an admission of lack of support by the disclosure" (page 36, lines 13-15, of the response). Firstly, it is noted that the applicant once again has not indicated where in the Office Action the Examiner makes these "various unsupported allegations regarding the disclosure and then alleges an admission of lack of support by the disclosure" asserted by applicant. He has not even indicated what the alleged various unsupported allegations was or why it was being traversed. As to

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applicant's assertion that the Examiner stated "various unsupported allegations regarding the disclosure and then alleges an admission of lack of support by the disclosure" it is unclear exactly what applicant is referring to in the Office Action. The only thing that a review of the Office Action indicated that may correspond to applicant's assertion is the statements made by the Examiner with regard to the numerous incorporations by reference by the applicant in the specification. On pages 29-30 of the Office Action the Examiner indicated that:

"At this time it is assumed that these incorporations do not incorporate 'essential' subject matter since these incorporations include the incorporation of material from sources other than (1) a U.S. Patent or (2) an allowed U.S. application. If, during the prosecution of this application, it should become apparent that these incorporations do indeed improperly incorporate 'essential' subject matter (such as applicant attempting to rely upon one or more of the references to overcome the various 112 rejections) applicant will, at that time, be required to remove the (then) improper incorporation."

Again, from a review of this section, it does not appear that the Examiner "alleges an admission of lack of support by the disclosure" as stated by applicant. If this is not the section applicant is making reference to, it is suggested that he specifically point out what parts of the Office Action he is referencing.

67. Section 1.7 is titled "THE § 132 ISSUE". In this section, Applicant argues that "the claims are alleged to include new matter

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under § 132 and the claims are required to be cancelled. However, amended claims are not subject to such a § 132 objection" (page 37, lines 2-3). Applicant is apparently referring to the Examiner's statement, "additionally, since the [claim] limitations ... are not supported by the originally filed specification these limitations constitute new matter and should therefore be canceled in accordance with 35 U.S.C. 132". First, the statement made by Examiner was made under the heading of "**Claim Rejections - 35 U.S.C. § 112, 1st Paragraph**" as part of, and in support of the 35 U.S.C 112, first paragraph rejections where a complete explanation with examples of lack of enablement was set forth. That is, Examiner has shown, by example, how Applicant's invention is not supported by the original disclosure. Therefore, since the claimed subject matter has been added to the application and did not exist in the original disclosure, the current claimed subject matter constitutes "new matter". Regarding such "new matter", 35 U.S.C. 132 states (emphasis added):

"Whenever, on examination, any claim for a patent is rejected, or any objection or requirement made, the Commissioner shall notify the applicant thereof, stating the reasons for such rejection, or objection or requirement, together with such information and references as may be useful in judging of the propriety of continuing the prosecution of this application; and if after receiving such notice, the applicant persists in his claim for a patent, with or without amendment, the application shall be reexamined. **No amendment shall**

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introduce new matter into the disclosure of the invention."

To emphasize, 35 U.S.C. 132 requires that no new matter be added, by amendment, to the "disclosure". The disclosure is comprised of the specification, claims and drawings. In summary, as Applicant has added new matter, by amendment, to the claims as exemplified by Examiner, and since the claims are part of the "disclosure", the "authority" to require cancellation is derived directly from 35 U.S.C. 112 and 35 U.S.C. 132.

68. Section 1.8 is titled "THE § 101 REJECTION REGARDING SIGNAL TERMINOLOGY IS IMPROPER IN LIGHT OF THE STATUTE AND THE LAW OF THE FEDERAL CIRCUIT". In this section, Applicant argues that "the §101 rejection of the claims reciting signal terminology is improper" (page 37, lines 12-13) because "the eligible products identified in paragraph 101 are machines, manufactures, and compositions of matter" (page 38, lines 1-2) and "signals constitute 'manufactures' because the signals are physical things" (page 38, line 4). Applicant recites a court decision that equates "signals" to "physical things" (Arrhythmia Research Technology Inc. V. Corazonix Corp.) at page 38 of the response. In addition, Applicant recites a court decision (Diamond v. Chakrabarty) defining a "manufacture" as "the production of articles for use from raw or prepared

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materials by giving to these materials new forms, qualities, properties or combinations, whether by hand-labor or by machinery" (bottom of page 37). The rejected signal claims are claims 95-97, which recite limitations for a "signature signal" set forth in a previous claim. Applicant's asserts, citing the Arrhythmia decision, that signals are "physical things" (page 38, lines 4-6), but apparently ignores more substantive issues. Even assuming, for the sake of argument, that signals are inherently physical, this fact does not render a claim *per se* statutory. By the same argument, a beams of light or magnetic fields could be, broadly, termed "physical things" and yet are explicitly barred from patentability as being "natural phenomena". Even if applicant's "signal" or "image data" can be construed as manufactures, they are not automatically statutory subject matter. Rather, the question is whether or not applicant's claims constitute functional elements or non-functional descriptive matter. Non-functional descriptive material includes but is not limited to music, literary works, and a compilation or mere arrangement of data (MPEP 2106 IV.B.1 - emphasis added). On its face, "a signal", absent any statement of how this signal interacts with other elements to perform a useful function, this claim appears to recite a mere arrangement of data. Merely claiming nonfunctional descriptive material stored in a computer-readable medium (such as in claim 396) does not make it

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statutory. Such a result would exalt form over substance. *In re Sarker*, 588 2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978). Alternately, one could construe a signal or a stored image as "data structures", however, data structures not claimed as embodied in computer-readable media are descriptive material *per se* and are not statutory because they are neither physical "things" nor statutory processes. See *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760. Applicant's arguments on pages 37-38 that claims 302-3305 and 308-309 constitute statutory "manufactures" are not convincing.

69. In conclusion, all of applicant's arguments have been fully considered, but they are not found to be convincing to overcome the various rejections presented in the previous Office Action. Further, all of applicant's arguments are broad, non-specific arguments and contain no specifics and no specific mentions of the actual rejections or make any specific reference to the claims or specification to overcome the rejections. Additionally, applicant also extensively argues rejections that were not even made in the last Office Action.

70. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is

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set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

71. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Mancuso whose telephone number is (703) 305-3885. The examiner can normally be reached on Monday-Friday from 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au, can be reached on (703) 308-6604. The fax phone number for this Group is (703) 308-9589.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-8576.

JM
June 8, 2000

JOSEPH MANCUSO
PRIMARY EXAMINER